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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,068	04/12/2005	Daisuke Kanenari	AOK-0235	2536

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EXAMINER
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WU, IVES J

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

### Period for Reply

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 2/21/06.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-7 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

(1). Applicants' Remarks and Amendments filed on February 21, 2006 have been received and acknowledged.

Claims 2 and 3 are cancelled. Claims 1 and 4-6 are amended.

Claim 7 is newly added.

The rejections of claims 1-6 in the prior Office Action dated October 18, 2005 is withdrawn in response to the applicants' amendments filed on February 21, 2006.

However, a new ground of rejections for claims 1,4-7 is presented below.

#### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

(2). Claims 1 and 4-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 is amended to include at least 30 parts by weight of a polybutadiene rubber and Carbon Black having Nitrogen Specific surface area of 82 m<sup>2</sup>/g or less. These limitations are only disclosed in the Examples and Table I-1 on page 12, Table II-1 on page 16, it is not literally cited in the specification to support the inventive subject matter "at least 30 parts by wt of a polybutadiene rubber", "82 m<sup>2</sup>/g or less of Nitrogen SSA". Examples are used to provide the evidence of the scope, patentability of the claims. Examples are not used to extrapolate the scope of the claims because examples also need the support of literal statements in the specification.

Claims 4-7 are rejected because of their dependence on claim 1.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

(3). Claims 1, 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tetsuji (JP 08269241A) in view of Blumel et al (US003520954), and further in view of Georget et al (US006251977B1) and Obrecht et al (US006579945B2).

(4). Tetsuji (JP-08269241A) discloses a rubber composition comprising an organic peroxide crosslinking agent [0011], (I). A polybutadiene (BR) and/or a styrene/butadiene copolymer rubber (SBR), and (II). A nitrile copolymer comprising a polymer chain essentially consisting of an ethylenically unsaturated nitrile and a conjugated diene having conjugated diene unit content of 30 wt% or below and zinc salt of methacrylic acid from 10-100 parts by wt based on 100 parts by wt of nitrile copolymer. The ratio of (I)/(II) is from 10:90 to 90:10 (Abstract).

(5). As to the component (A) of a natural rubber and at least 30 parts by wt of polybutadiene rubber **independent claim 1**, Tetsuji teaches the polybutadiene rubber from 10 to 90 parts by wt of mixture of nitrile copolymer, zinc salt of methacrylic acid and polybutadiene (Abstract).

Tetsuji **does not teach** the rubber component comprising natural rubber.

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However, Blumel et al **teach** the rubber compositions based on polybutadiene rubber and cold rubber or natural rubber (Col. 1, line 24-25). In general, the weight ratio of the components of the blend can be varied in all proportions, preferably from 95:5 to 10:90 (Col. 2, line 25-27).

The advantage of blending the natural rubber and synthetic rubber such as polybutadiene is to partially combine the advantages abrasion properties of polybutadiene rubber with the excellent processing properties of natural rubber or cold rubber (Col. 1, line 33-36).

Therefore, it would have been obvious at time the invention was made to use the rubber blend of natural rubber and polybutadiene taught by Blumel et al for the rubber component (polybutadiene or SBR) of Tetsuji in order to obtain the above-mentioned advantage.

As to the component (A) to be 60 to 95 parts by wt, and component (B) at least 5 parts ~ 40 parts by wt of a polar polymer in **independent claim 1**, Tetsuji discloses the weight ratio of nitrile copolymer and zinc salt of methacrylic acid to the rubber component of polybutadiene is from 90/10 to 10/90 (Abstract).

As to the component B comprising 100 parts by wt of nitrile-conjugated diene-based high saturated copolymer rubber having a conjugated diene unit content of 30 wt% or less and 20 to 120 parts by wt of a metal salt of an ethylenically unsaturated carboxylic acid blended in **independent claim 1**, Tetsuji disclose a nitrile copolymer comprising a polymer chain essentially consisting of an ethylenically unsaturated nitrile and a conjugated diene having conjugated diene unit content of 30 wt% or below and zinc salt of methacrylic acid from 10-100 parts by wt based on 100 parts by wt of nitrile copolymer recited in paragraph (4).

As to a superior anti-blooming property in the peroxide-crosslinked rubber composition in the **independent claim 1**, in view of substantially identical compositions of components of peroxide-crosslinked rubber composition disclosed by Tetsuji and applicant, it is the examiner's position to believe that the rubber composition of Tetsuji would inherently possess a superior anti-blooming properties. Since USPTO does not have proper means to conduct the experiments, the burden is now shifted to the applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980).

As to the component C of carbon black having nitrogen specific surface area of  $82 \text{ m}^2/\text{g}$  or less to be 20 to 70 parts by wt of component (B), (C) based on 100 parts by wt of components (A),(B) in the **dependent claim 1**, Tetsuji **does not teach** the carbon black, surface areas in his rubber composition.

However, Georget et al **teach** the component of carbon black to be 10 to 100 parts by wt in the rubber composition (Col. 2, line 37-60) in this range, the carbon black and component (B) would be 20 to 70 parts by wt based on 100 parts by wt of components (A), (B).

Obrecht et al teach using the carbon black with BET surface areas of  $20 - 200 \text{ m}^2/\text{g}$  such as e.g.: SAF, ISAF, IISAF, HAF, FEF or GPF carbon blacks (Col. 4, line 32-38)

The advantage of using carbon black in the rubber composition is to reinforce the rubber as a filler component (Georget et al, Col. 1, line 22-23). It is well known in the art, with specific range of surface areas (Obrecht et al, Col. 4, line 32-38), the mechanical properties and abrasion resistance are superior<sup>1</sup>.

Therefore, it would have been obvious at time the invention was made to add carbon black of combined teaching of Georget et al and Obrecht et al in the rubber composition of Tetsuji in order to achieve the aforementioned advantages.

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<sup>1</sup> Amino et al (US006642315B2) - The nitrogen specific area of the carbon black is not limited, but the lower limit is preferably  $5 \text{ m}^2/\text{g}$ , and upper limit is preferably  $130 \text{ m}^2/\text{g}$ . If the nitrogen specific area is in this range, the mechanical properties and abrasion resistance are superior (Col. 9, line 44-51).

As to the physical properties of 50% modulus to be 3 – 10 Mpa and a  $\tan\delta$  at 100 °C to be not more than 0.15 in **dependent claim 4**, in view of substantially identical rubber compositions disclosed by combined teaching of Georget et al, Obrecht et al and Tetsuji, Blumel et al, and by applicant, it is the examiner's position to believe that the rubber composition of prior arts would inherently possess the physical properties of 50% modulus to be 3 – 10 Mpa and a  $\tan\delta$  at 100 °C to be not more than 0.15. Since USPTO does not have proper means to conduct the experiments, the burden is now shifted to the applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980).

As to the limitation of **dependent claims 5 and 6**, Obrecht et al disclose the rubber mixture suitable in particular for tire component such as reinforced tire sidewalls for tires with emergency running properties ("inserts for run flat tires") (Col. 5, line 59-67)

As to the polybutadiene to be at least 40 parts by wt in **dependent claim 7**, Blumel et al disclose the wt ratio of the components blend to be 95:5 to 10:90 which includes the 40 parts by wt of polybutadiene.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ives Wu whose telephone number is 571-272-4245. The examiner can normally be reached on 8:00 - 5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner: Ives Wu

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Date: April 28, 2006

  
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SUPERVISORY PATENT EXAMINER  
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